

Amendments to the Claims

This listing of claims replaces all prior versions and listings of claims in the above-identified application:

1-30. (Canceled)

31. (Withdrawn) A method for crystallizing Hepatitis C virus helicase comprising growing a crystal from a precipitant solution comprising purified Hepatitis C virus helicase, about 3% by weight to about 14% by weight PEG, about 5% by weight to about 15% by weight DMSO, and about 0.05M to about 0.07M potassium phosphate, wherein the amino acid sequence of Hepatitis C virus helicase is SEQ ID NO:1.

32-34. (Canceled)

35. (Withdrawn) A method for crystallizing Hepatitis C virus helicase comprising growing a crystal by vapor diffusion with macro-seeding from a precipitant solution comprising purified Hepatitis C virus helicase, HEPES, and about 4% by weight to about 14% by weight mono-alkyl ether of PEG, wherein the amino acid sequence of the Hepatitis C virus helicase is SEQ ID NO:1.

36-37. (Canceled)

38. (Previously Presented) Crystalline Hepatitis C virus helicase comprising a tetragonal crystal having unit cell dimensions of $a = b = 109 \text{ \AA} \pm 3 \text{ \AA}$; $c = 84 \text{ \AA} \pm 2 \text{ \AA}$; $\alpha = \beta = \gamma = 90^\circ$; and space group $P4_1$; the unit cell containing two molecules in an asymmetric unit.

39. (Previously Presented) The crystalline Hepatitis C virus helicase of claim 38 wherein the amino acid sequence of the Hepatitis C virus helicase is SEQ ID NO:1.

40. (Previously Presented) Crystalline Hepatitis C virus helicase comprising an orthorhombic crystal characterized by unit cell dimensions of $a = 66 \text{ \AA} \pm 2 \text{ \AA}$; $b = 110 \text{ \AA} \pm 3 \text{ \AA}$; $c = 64 \text{ \AA} \pm 2 \text{ \AA}$; $\alpha = \beta = \gamma = 90^\circ$; and a space group $P2_12_12_1$; the unit cell containing one molecule in the asymmetric unit.

41. (Previously Presented) The crystalline Hepatitis C virus helicase of claim 40 wherein the amino acid sequence of the Hepatitis C virus helicase is SEQ ID NO:1.

42. (Currently Amended) The Crystalline Hepatitis C virus helicase having of claim 38 wherein the Hepatitis C virus helicase is amino acid sequence SEQ ID NO:1[[.]] and wherein the crystalline Hepatitis C virus helicase effectively diffracts x-rays to a resolution of 1.5 Å to 3 Å.

43. (Previously Presented) A composition comprising crystalline Hepatitis C virus helicase of any of claims 38-41.

44-46. (Canceled)

47. **(Withdrawn)** A method for incorporating a chemical entity in a crystal comprising placing a tetragonal crystal of Hepatitis C virus helicase having unit cell dimensions of $a = b = 109 \text{ \AA} \pm 3 \text{ \AA}$; $c = 84 \text{ \AA} \pm 2 \text{ \AA}$; $\alpha = \beta = \gamma = 90^\circ$; the unit cell containing two molecules in an asymmetric unit; and space group $P4_1$ in an aqueous solution comprising about 1mM to about 10mM chemical entity, and 0% by weight to about 15% by weight DMSO.

48. **(Withdrawn)** A method for incorporating a chemical entity in a crystal comprising placing an orthorhombic crystal of Hepatitis C virus helicase having unit cell dimensions of $a = 66 \text{ \AA} \pm 2 \text{ \AA}$; $b = 110 \text{ \AA} \pm 3 \text{ \AA}$; $c = 64 \text{ \AA} \pm 2 \text{ \AA}$; $\alpha = \beta = \gamma = 90^\circ$; the unit cell containing one molecule in the asymmetric unit; and a space group $P2_12_12$ in an aqueous solution comprising about 1mM to about 10mM chemical entity, and 0% by weight to about 15% by weight DMSO.

49-50. **(Canceled)**

51. **(Currently Amended)** ~~A crystal of~~ The crystalline Hepatitis C virus helicase ~~[[.]] of claim 38~~ wherein the Hepatitis C virus helicase ~~comprises~~ is amino acid sequence SEQ ID NO:1, with the proviso that at least one cysteine or methionine is replaced with selenocysteine or selenomethionine, respectively, ~~and wherein the crystal effectively diffracts x-rays to a resolution of 1.5 \AA to 3 \AA.~~

52-54. **(Canceled)**

55. **(Currently Amended)** ~~A crystal of~~ The crystalline Hepatitis C virus helicase ~~comprising of~~ claim 38 wherein the Hepatitis C virus helicase crystal comprises atoms arranged in a spatial relationship represented by the structure coordinates listed in Table 1.

56. **(Currently Amended)** ~~A crystal of~~ The crystalline Hepatitis C virus helicase ~~comprising of~~ claim 38 wherein the Hepatitis C virus helicase crystal comprises atoms arranged in a spatial relationship represented by the structure coordinates listed in Table 2.

57. **(Currently Amended)** ~~A crystal of~~ The crystalline Hepatitis C virus helicase ~~comprising of~~ claim 40 wherein the Hepatitis C virus helicase crystal comprises atoms arranged in a spatial relationship represented by the structure coordinates listed in Table 3.

58. **(Currently Amended)** ~~A crystal of~~ The crystalline Hepatitis C virus helicase of claim 38 wherein the Hepatitis C virus helicase crystal is prepared by a method comprising growing a crystal from a precipitant solution comprising purified Hepatitis C virus helicase, about 3% by weight to about 14% by weight PEG, about 5% by weight to about 15% by weight DMSO, and about 0.05M to about 0.07M potassium phosphate, wherein the amino acid sequence of the Hepatitis C virus helicase is SEQ ID NO:1.

59. **(Currently Amended)** ~~A crystal of~~ The crystalline Hepatitis C virus helicase of claim 40 wherein the Hepatitis C virus helicase is prepared by a method comprising growing a crystal by vapor

diffusion with macro-seeding from a precipitant solution comprising purified Hepatitis C virus helicase, HEPES, and about 4% by weight to about 14% by weight mono-alkyl ether of PEG, wherein the amino acid sequence of the Hepatitis C virus helicase is SEQ ID NO:1.

60-61. **(Canceled)**

62. **(New)** The crystalline Hepatitis C virus helicase of claim 40 wherein Hepatitis C virus helicase is amino acid sequence SEQ ID NO:1 and wherein the crystalline Hepatitis C virus helicase effectively diffracts x-rays to a resolution of 1.5 Å to 3 Å.

63. **(New)** The crystalline Hepatitis C virus helicase of claim 40 wherein the Hepatitis C virus helicase crystal is amino acid sequence SEQ ID NO:1, with the proviso that at least one cysteine or methionine is replaced with selenocysteine or selenomethionine, respectively.